PP-9

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/420,565	10/19/1999	NICHOLAS G. DUFFIELD	113605	2979

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EXAMINER
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ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 02/26/2003

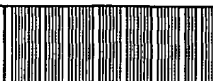Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/420,565	Nicholas G. Duffield et al.
	Examiner	Art Unit	
	Ho	2664	

*-- The **MAILING DATE** of this communication appears on the cover sheet with the correspondence address --*

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ___*three*___ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Dec 10, 2002* _____ .

2a) ☒ This action is **FINAL.**   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-39* _____ is/are pending in the application.

    4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-39* _____ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some* c) ☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    *See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)   4) ☐ Interview Summary (PTO-413) Paper No(s). _____

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   5) ☐ Notice of Informal Patent Application (PTO-152)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____   6) ☐ Other: _____

DETAILED ACTION

1.   The amendment filed 12/10/02 have been entered and made of record.

2.   Applicant's amendment filed 12/10/03 with respect to claims 1-39 have been considered

but are moot in view of the new ground(s) of rejection.

3.   Claims 1-39 are pending .

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth
> in section 102 of this title, if the differences between the subject matter sought to be patented and the prior
> art are such that the subject matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

5.   Claims 1-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al.

(U.S.Patent No. 5,953,338) in view of Kato (U.S.Patent No. 5,999,514).

In the claim 1, see figure 2, Ma et al. discloses precesses of monitoring a utilization level

of a grouping of a virtual path on a physical interface comprises checking the utilization level of

the virtual path, updating an amount of available bandwidth for the virtual path, and comparing

the amount of available bandwidth with a maximum threshold for the available bandwidth and

setting an overload condition if the amount exceeds the maximum threshold and clearing the

overload condition if the amount is below the maximum threshold (see abstract); comprising:

◊ coupling the hose (130 A) to endpoint (110 K, 110J) associated with other hoses (130 A, 130 B, 130 C, 130 D, 130 E, 130 F) via the routing paths in a network (see figure 2, col. 3, lines 48-67);

◊ allocating network resources (bandwidth allocation) to support communications between the hose and the other hose (see figure 2, col. 2, lines 13-30).

However, Ma et al. Is silent as to the description of the physical interface 133.

See figures 4, 6, Kato discloses a unique VPCI is defined, for example, for the subscriber line 102 #A, as shown in FIG. 4 (a). Additionally, if an arbitrary plural number of VPCIs among the respective VPCIs belonging to the subscriber line 102 # A, for example, the VPCI#a and #b are formed into a VPCI group X, according to this embodiment. Then, the attribute data A-c is defined for VPCI #c belonging to the subscriber line 102 # A as the attribute data, as shown in FIG. 4(b). For the VPCIs #a and #b belonging to the subscriber line 102 # A, the common attribute data X is defined as the attribute data of the VPCI group X including these VPCIs. Also the definition data for grouping the VPCIs #a and #b are formed into the VPCI group X, as shown in FIG. 4 (b); comprises:

◊ establishing a hose for each of a plurality of endpoints of a virtual private network, the hose does not reference another endpoint at establishment (see figures 4, 6, col. 8, lines 45-67, col. 10, lines 1-40, see col. 2, lines 40-67, col. 3, lines 5-10, lines 25-40).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Ma's system with the teaching of Kato to establish a hose for each of a

plurality of endpoints of a virtual private network, the hose does not reference another endpoint

at establishment in order to handle the data packets according to an attribute data storing data

unit. Therefore, the combined system would have been enable a subscriber to accommodate in an

ATM switch on a network side via virtual path multiplexer (VP-MUX).

6.   In the claim 2, Ma et al. discloses a service level agreement (service contract agreement,

quality of service) for the hose, the service level agreement including a hose profile and other

information for controlling and managing the hose (see col. 3, lines 45-67).

7.   In the claim 21, Ma et al. discloses precesses of monitoring a utilization level of a

grouping of a virtual path on a physical interface comprises checking the utilization level of the

virtual path, updating an amount of available bandwidth for the virtual path, and comparing the

amount of available bandwidth with a maximum threshold for the available bandwidth and

setting an overload condition if the amount exceeds the maximum threshold and clearing the

overload condition if the amount is below the maximum threshold (see abstract); comprising:

◊   a plurality of routing paths in the network, the routing paths coupling the hose to

        endpoints (110K, 110J, 110A, 110B) associated with other hoses (see figure 2, col. 3,

        lines 48-67);

◊   virtual private network service provider (145); the virtual private network service

        provider allocating network resources to support communications between the hose and

        the other hoses (see figure 2, col. 3, lines 48-67).

        However, Ma et al. Is silent as to the description of the physical interface 133.

See figures 4, 6, Kato discloses a unique VPCI is defined, for example, for the subscriber line 102 #A, as shown in FIG. 4 (a). Additionally, if an arbitrary plural number of VPCIs among the respective VPCIs belonging to the subscriber line 102 # A, for example, the VPCI#a and #b are formed into a VPCI group X, according to this embodiment. Then, the attribute data A-c is defined for VPCI #c belonging to the subscriber line 102 # A as the attribute data, as shown in FIG. 4(b). For the VPCIs #a and #b belonging to the subscriber line 102 # A, the common attribute data X is defined as the attribute data of the VPCI group X including these VPCIs. Also the definition data for grouping the VPCIs #a and #b are formed into the VPCI group X, as shown in FIG. 4 (b); comprises:

◇   establishing a hose for each of a plurality of endpoints of a virtual private network, the hose does not reference another endpoint at establishment (see figures 4, 6, col. 8, lines 45-67, col. 10, lines 1-40, see col. 2, lines 40-67, col. 3, lines 5-10, lines 25-40).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Ma's system with the teaching of Kato to establish a hose for each of a plurality of endpoints of a virtual private network, the hose does not reference another endpoint at establishment in order to handle the data packets according to an attribute data storing data unit. Therefore, the combined system would have been enable a subscriber to accommodate in an ATM switch on a network side via virtual path multiplexer (VP-MUX).

8.   In the claim 22, Ma et al. discloses the virtual private network service provider receives a service level agreement for the hose, the service level agreement including a hose profile and other information for controlling and managing the hose (see figure 2, col. 3, lines 48-67).

9.   In the claims 3, 23, Kato discloses whether to transmit marked data packets to the hose (see col. 2, lines 5-67).

10.   In the claims 4, 24, Ma et al. discloses specify one or more aggregate bandwidth for the hose (see col. 3, lines 48-67); specifying a time schedule for each of the aggregate bandwidth, the aggregate bandwidth and the time schedule being stored in the hose profile (see col. 13, lines 1-5).

11.   In the claims 5, 25, Kato discloses receiving information regarding data packet marking and a quality of service corresponding to each of the data packet marking; and initializing the allocated network resources to provide the quality of service based on the data packet marking if condition in the hose profile is not violated (see col. 2, lines 5-67).

12.   In the claims 6, 26, Ma et al. discloses receiving one or more quality of service levels for the hose; establishing one or more sub-virtual private networks, each sub-virtual network corresponding to one of the quality of service levels; specifying one or more bandwidth for the hose corresponding to each of the sub-virtual private networks; and specifying one or more time schedules for the bandwidth, the bandwidth and the time schedules being stored in the hose profile (see figure 2, col. 3, lines 48-67).

13.   In the claims 7, 27, Kato discloses receiving information regarding data packet marking and a quality of service corresponding to each of the data packet markings; and initializing the allocated network resources to provide the quality of service based one the data packets marking if conditions in the hose profile is not violated (see col. 2, lines 5-67, col. 3, lines 5-40).

14.   In the claims 8, 28, Kato discloses measuring communication traffic of allocated network resources to generate monitoring data; generating a resizing condition based on the monitoring data; and resizing the allocated network resources if the resizing condition is within one or more threshold of the hose profile (see col. 2, lines 5-67, col. 3, lines 5-40).

15.   In the claims 9, 10, 29, 30, Kato discloses the monitored data includes historical data, generating trend data to predict virtual private network usage (see col. 2, lines 55-67, col. 3, lines 5-40).

16.   In the claims 11, 31, Ma et al. discloses reducing the allocated network resources if the resizing condition is below the lower bound threshold; and increasing the allocated network resources if the resizing condition is above the upper bound threshold (see col. 8, lines 35-37).

17.   In the claims 12, 32, Ma et al. discloses if the resizing condition is below the lower bound threshold by a predetermined amount, renegotiating the hose profile to change the service level agreement to be more consistent with the monitored data (see col. 7, lines 45-50).

18.   In the claims 13, 33, Ma et al. discloses if the resizing condition is above limits set by the hose threshold, renegotiating the hose profile to change the service level agreement to be more consistent with the monitored data (see col. 7, lines 45-50).

19. In the claims 14, 34, Ma et al. discloses the resizing condition determined based on a prediction of future virtual private network usage (see col. 8, lines 35-37).

20. In the claims 15, 35, Kato discloses the routing paths is determined based on one or more of : network connectivity; a hose identification; and virtual private network identification (see col. 2, lines 1-67, col. 3, lines 5-40).

21. In the claims 16, 36, Kato discloses the routing paths based on a shorted distance between pairs of endpoints of the virtual private networks to form a pe between the pairs of the endpoints (see col. 2, lines 5-67, col. 3, lines 5-40).

22. In the claims 17, 18, 37, 38, Kato discloses selecting the routing paths based on a source tree or a sink tree for each of the endpoints; and minimizing a bandwidth allocation between nodes of the network by maximizing sharing of same paths for branches of the sources or the sink tree extending between different ones of the endpoints (see col. 2, lines 5-67, col. 3, lines 5-40).

23. In the claims 19, 39, Kato discloses selecting the routing paths based on source trees or sink trees corresponding to all endpoints of one or more virtual private networks; and minimizing a bandwidth allocation between nodes of the network by maximizing sharing of same paths for branches of the sources or the sink trees extending between different ones of the endpoints for all the virtual private networks (see col. 2, lines 5-67, col. 3, lines 5-40).

24. In the claim 20, Ma et al. discloses the network is an Internet Protocol Network (see col.1 2, lines 1-5).

25.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR

1.136(a) will be calculated from the mailing date of the advisory action. In no event, however,

will the statutory period for reply expire later than SIX MONTHS from the date of this final

action.

Application Number: 09/420,565

Art Unit: 2664

Conclusion

26.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Chuong Ho whose telephone number is (703)306-4529. The

examiner can normally be reached on Monday-Friday from 9am to 3pm.

27.   If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Wellington, Chin, can be reached on (703)305-4633.

Any inquiry of a general nature or relating to the status of this application or proceeding   should

be direct to the group receptionist whose telephone number is (703) 305-3900.

CH

Date 02-08-03

WELLINGTON CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600